Before the
FEDERAL COMMUNICATIONS COMMISSION

In the Matter of	)	
	)	
Application by SBC Communications, Inc.	)	
For Authorization Under Section 271 of the	)	**CC Docket**
Communications Act To Provide In-Region	)	**No. 97-121**
InterLATA Service in the State of Oklahoma	)	

STATEMENT
OF

R. GLENN HUBBARD AND WILLIAM H. LEHR
ON BEHALF OF AT&T

R. Glenn Hubbard and William H. Lehr do hereby depose and state as follows:

O. STATEMENTS OF QUALIFICATION

R. GLENN HUBBARD

My name is R. Glenn Hubbard. My business address is 3022 Broadway, 101 Uris Hall, New York, New York 10027.

I hold the Russell L. Carson Professorship in Economics and Finance at Columbia University, where I am also Senior Vice Dean of the Graduate School of Business. At the National Bureau of Economic Research, I am a research associate in programs on corporate finance, public economics, industrial organization, monetary economics, and economic fluctuations. I am also a visiting scholar at the American Enterprise Institute, where I direct the Program on Tax Policy Research, and an advisor to the

president of the Federal Reserve Bank of New York. Prior to joining the Columbia faculty as professor of economics and finance in 1988, I taught in the economics department of Northwestern University. I have also served as John M. Olin Visiting Professor at the University of Chicago, Visiting Professor and Research Fellow of the Energy and Environmental Policy Center at the John F. Kennedy School of Government, and John M. Olin Fellow at the National Bureau of Economic Research. My A.M. and Ph.D. degrees in economics are from Harvard University, and my B.A. and B.S. degrees are from the University of Central Florida, *summa cum laude*.

My professional work has centered on problems in public economics, industrial organization, natural resource economics, and monetary economics. I have authored more than eighty journal articles, edited a number of books, and authored a leading textbook in money and financial markets. I have served on the editorial boards of journals specializing in industrial economics. I have been an advisor or consultant to the Board of Governors of the Federal Reserve System, Congressional Budget Office, Federal Reserve Bank of New York, Internal Revenue Service, International Trade Commission, U.S. Department of Energy, and U.S. Department of the Treasury. In 1991-1993, I served as Deputy Assistant Secretary (Tax Analysis) of the U.S. Treasury Department where I was responsible for economic analysis of tax policy, the administration's revenue estimates, and health care policy issues.

FCC DOCKET CC NO. 97-121
AFFIDAVIT OF R. GLENN HUBBARD AND WILLIAM H. LEHR

I have prepared analysis for and testified in many telecommunications regulatory proceedings. My curriculum vitae is attached as Attachment 1 with more biographical details and a listing of my writings.

WILLIAM H. LEHR

My name is William H. Lehr. My business address is 94 Hubbard Street, Concord, MA 01742.

I am an associate research professor of finance and economics at the Graduate School of Business of Columbia University. Prior to joining the Columbia faculty in 1991, I received my Ph.D. in economics from Stanford University. My M.B.A. (Wharton), M.S.E. (chemical engineering), B.S. (chemical engineering, *cum laude*), and B.A. (European history, *magna cum laude*) degrees are from the University of Pennsylvania. I have significant professional experience in the telecommunications industry through positions at consulting firms and at MCI.

My research focuses on issues in telecommunications economics and policy. I have authored a number of professional articles on standard setting and networks. My *curriculum vitae* is attached as Attachment 2.

I. INTRODUCTION

The principal goal of the Telecommunications Act of 1996

(the Act)[1] is to promote effective competition in all telecommunications services as the surest path to delivering benefits to consumers. The Act describes provisions under which Bell Operating Companies (BOCs), including Southwestern Bell Telephone (SWBT), will be permitted to offer interLATA services. The Act specifies that the Federal Communications Commission (FCC) should not approve a request for entry into the long distance market unless it determines, among other things, that the request is "consistent with the public interest, convenience, and necessity."[2] In this affidavit, we demonstrate that granting authority for SWBT to offer in-region, interLATA services in Oklahoma at the present time would be inconsistent with the public interest.

The public interest will be advanced if entry by SWBT improves the welfare of consumers by making long distance, local exchange, and other telecommunications markets more competitive. Competition benefits consumers -- and thereby advances the public interest -- through lower prices, improved service quality, and expanded customer choice. Entry by a BOC, such as SWBT, into interLATA services must be viewed within the larger context of its likely effect on the competitive process and consumer well-being in

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[1] TELECOMMUNICATIONS ACT OF 1996, PUB. L. NO. 104-104, 110 STAT. 56 (1996).

[2] TELECOMMUNICATIONS ACT of 1996, at § 271(d)(3)(c), note 1, *supra*.

all telecommunications markets.

Today, there is effective competition in long distance markets and virtually no competition in local exchange markets. Partial realization of the competitive goal (*i.e.*, in long distance) depended on the separation of these two markets mandated by regulation. While the emergence of effective local service competition will eventually eliminate the need for continuing mandated separation, it is not appropriate at this time to permit the BOCs to participate in the market for interLATA services. At this early stage -- before the success of the provisions embodied in Section 251 of the Act is assured -- entry by the BOCs into interLATA services would threaten the competitive process in *both* long distance and local services. To ensure that entry of a BOC, such as SWBT, into interLATA services does not impede competition, it is important to consider the economics of local and long distance markets -- their current conditions, differences, and relationship. In this affidavit, we present this analysis, explain the economic principles which should guide application of Section 271 of the Act, and respond to claims raised in this proceeding by Robert Dauffenbach[3], Kenneth Gordon[4], Alfred Kahn and

[3] See *Affidavit of Robert Dauffenbach*, In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Provision of In-Region, InterLATA Services in Oklahoma, Before the Federal Communications Commission, April 1997.

Timothy Tardiff[5], Edward Price[6], Michael Raimondi[7], and Richard Schmalensee.[8]

We organize the remaining discussion into five major sections. In Section II, we interpret Section 271 within the larger context of the Act, its goals, and relationship to the public interest. Section III reviews the current status of

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[4] (...continued)
[4] See *Affidavit of Kenneth Gordon*, In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Provision of In-Region, InterLATA Services in Oklahoma, Before the Federal Communications Commission, April 1997.

[5] See *Affidavit of Alfred E. Kahn and Timothy J. Tardiff*, In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Provision of In-Region, InterLATA Services in Oklahoma, Before the Federal Communications Commission, April 1997.

[6] See *Affidavit of Edward O. Price*, In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Provision of In-Region, InterLATA Services in Oklahoma, Before the Federal Communications Commission, April 1997.

[7] See *Affidavit of Michael Raimondi*, In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Provision of In-Region, InterLATA Services in Oklahoma, Before the Federal Communications Commission, April 1997.

[8] See *Affidavit of Richard L. Schmalensee*, In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., for Provision of In-Region, InterLATA Services in Oklahoma, Before the Federal Communications Commission, April 1997.

competition in long distance and local exchange services. Section IV assesses the costs and benefits of potential BOC entry into long distance services. In Section V, we respond to the analysis of long distance and local competition in SWBT's region by SWBT affiants Alfred Kahn and Timothy Tardiff[9], Michael Raimondi[10], and Richard Schmalensee. Section VI concludes.

To anticipate, we reach the following seven conclusions:

1. Long distance markets are effectively competitive today. An analysis of market shares, pricing trends, patterns of entry, marketing and product introduction strategies, and customer behavior demonstrate the existence of vigorous competition which has delivered significant benefits to consumers in the form of lower prices and improved quality and choice of services.

2. Local exchange markets remain dominated by monopoly BOCs, such as SWBT, in marked contrast to conditions readily observed in long distance

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[9] Among SWBT affiants, Kahn and Tardiff provide the most extensive discussion of long distance competition and the threat of anticompetitive behavior. The testimony of Kenneth Gordon reiterates arguments provided by Kahn and Tardiff; we will not discuss it separately.

[10] The testimony of Robert Dauffenbach and Edward Price offers no independent substantive analysis, and simply endorses the WEFA analysis presented by Michael Raimondi. Hence we do not discuss their testimony separately.

services. Competitive entry by Competitive Local Exchange Carriers (CLECs) and Competitive Access Providers (CAPs) is limited and, contrary to BOC arguments, predictions of significant facilities-based entry from wireless or cable TV carriers still rest on unproved technologies. The only significant near-term hope for local competition is from entrants relying heavily on the opportunities to resell BOC wholesale services and lease unbundled network elements (UNEs) that are provided under Section 251 of the Act.

3. SWBT's entry into interLATA services will not enhance the performance of long distance markets because these markets are already effectively competitive. Rather, it will threaten competition in both long distance and local exchange markets. The BOCs' incentives and opportunities to engage in anticompetitive behavior and to extend their market power over local exchange services, long distance services and other telecommunications services will be enhanced if they are allowed to compete in interLATA services at this time.

4. SWBT's entry into long distance services is not warranted on efficiency grounds. Relaxation of the entry restriction in the near term will not further

deregulatory goals, but will force regulators to adopt less effective and more cumbersome mechanisms to attempt to safeguard the competitive process from anticompetitive behavior by SWBT.

5. SWBT affiants Alfred Kahn and Timothy Tardiff present misleading and incorrect evidence of the state of long distance competition and understate the danger to the competitive process from allowing premature entry by SWBT into interLATA toll services. Their partial analysis focuses on the strength of SWBT as a potential long distance competitor[11], but fails to note that SWBT's uniqueness as a prospective entrant stems from its position as the monopoly provider of bottleneck facilities.

6. The WEFA analysis presented by Michael Raimondi and endorsed by Robert Dauffenbach and Edward Price merely demonstrates the importance of telecommunications services to the economy of Oklahoma -- both local and long distance. The results are based on faulty and inadequately substantiated assumptions contrasting the base case

[11] Richard Schmalensee's testimony also focuses on a partial analysis of SWBT's strength as an entrant into interLATA services.

to the scenario in which SWBT enters long distance service. The analysis ignores the negative impact on local competition (and hence local and long distance prices) of permitting premature entry by SWBT and fails to adequately explain why all of the benefits assumed in their alternate scenario should be uniquely assigned to the entry of SWBT.

7. The best policy is to deny interLATA relief for SWBT until effective competition emerges in local exchange markets.

II. PUBLIC INTEREST GOALS OF SECTION 271

The principal goal of the Act is to promote competition in *all* telecommunications services in order to afford consumers the benefits of competition (*i.e.*, lower prices, improved quality, and greater choice). This requires a substantial shift in the regulatory paradigm. With the emergence of effective competition, market forces will increasingly replace direct regulatory oversight as the guarantors of consumers' well-being and the health of the telecommunications sector of the economy.

When the forces of competition are fully effective, regulatory intervention is unnecessary. In the absence of effective competition, however, complex regulatory controls are often needed to assure that consumers' interests are protected. In such cases, it is common to restrict the regulated firm's

participation in unregulated, competitive markets in order to prevent the firm from either harming the competitive process in other markets or circumventing regulations in its home market.

The restriction on BOC participation in interLATA markets addressed by Section 271 of the Act originated in the Modification of Final Judgment (MFJ), which governed the divestiture of the former Bell System into a long distance company (AT&T), which would face competition, and into the seven Regional Bell Operating Companies (RBOCs), which would be regulated as local monopolists.

While the MFJ achieved its goal of establishing vigorous and sustainable competition in long distance markets by the end of the 1980s, local exchange markets have remained monopolized by the BOCs. Despite this fact, since early after divestiture the BOCs have lobbied in judicial, legislative, and regulatory arenas for freedom to enter interLATA markets.[12]

The Act provides the "pro-competitive, de-regulatory national policy framework" for "opening all telecommunications markets to competition."[13] The Act includes a number of provisions which address the requirements of effecting the transition from

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[12] In 1994, four RBOCs -- Bell Atlantic, BellSouth, SWBT and NYNEX -- filed a motion to vacate the MFJ. Before the hearing on the RBOCs' motion was held, the issues addressed by the motion were resolved by the Telecommunications Act of 1996.

[13] See Telecommunications Act of 1996, Conference Report, 104th Congress, 2nd Session, Report 104-458, January 31, 1996, page 1.

strong, interventionist regulatory oversight to increased reliance on market forces. Introducing competition to local exchange services is the biggest challenge which regulatory policymakers must confront. Section 251 of the Act sets forth the policies and requirements which are necessary if local exchange competition is to emerge. These include requiring that the incumbent local exchange carriers (ILECs), including SWBT, make available to entrants essential monopoly inputs (*i.e.*, unbundled network elements, interconnection, and wholesale services) at reasonable, cost-based prices.

The Act recognizes that the ILECs have little incentive to cooperate in a process that is intended to reduce their monopoly control over local exchange services, and so implementing these provisions is going to be quite difficult. To protect the competitive process during the transition, the Act includes a number of special provisions which apply to the BOCs and are intended to limit their ability to exploit their market power. Section 271 identifies the preconditions and requirements which must be satisfied before the FCC may approve a BOC's application to compete in interLATA services. These include a public interest test, a requirement that there exist a facilities-based local exchange competitor, and a competitive checklist that is intended to assure successful implementation of the policies required by Section 251 *before* the restriction against competing in interLATA

services is removed.[14]

The provisions of Section 271 identify the circumstances under which the BOC entry restriction will become unnecessary. To eliminate this restriction prematurely would at a minimum necessitate an increase in alternative regulatory mechanisms to attempt to safeguard against anticompetitive behavior by the BOC.[15] Moreover, these alternatives are less effective at protecting competition and are more cumbersome to implement. In fact, removal of this form of regulation would necessitate an overall *increase* in the regulatory burden, while at the same time diminishing its effectiveness in preventing anticompetitive conduct.

Removal of the restriction against BOC entry into interLATA services prior to the emergence of effective local exchange competition would be anticompetitive because it would raise entry barriers in local exchange services, would adversely affect those carriers who have already entered local markets (albeit on a small scale), and would threaten interLATA competition. Therefore, delaying entry of the BOCs into interLATA services until the emergence of effective local exchange competition is the surest way to realize the pro-competitive goals of the Act. Because such competition does not exist today, and

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[14] See Section 271 of the TELECOMMUNICATIONS ACT of 1996, note 1, *supra*.

[15] We discuss these mechanisms in detail in Section IV, *infra*.

because the nondiscriminatory unbundling, interconnection and resale provisions of Section 251 have not yet been implemented successfully[16] as required by Section 271, it would be premature to permit the BOCs to enter interLATA services at this time.

III. STATE OF COMPETITION IN LONG DISTANCE AND LOCAL EXCHANGE MARKETS

In the following two subsections, we examine empirical evidence regarding the current effectiveness of competition in long distance and local exchange services. This analysis demonstrates that, by *every* empirical measure, long distance services are effectively competitive today, while local services remain a monopoly. Moreover, because local services (*e.g.*, local access) are an essential input to long distance services, the state of competition in local services has a direct effect on the costs -- and therefore prices -- of long distance services.

This empirical assessment of market structure and performance leads us to anticipate significantly larger gains for consumers from the success of local competition than from further entry into long distance services. Elementary economics teaches us that competitive markets are generally efficient because prices approximate economic costs and firms are forced to adopt efficient,

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[16] Nontrivial market experience (*i.e.*, in which entrants have actually used UNEs and resale opportunities to offer competing local exchange services) will be required before one can be assured that the Section 251 provisions have been successfully implemented.

cost-minimizing technologies in order to survive. While additional entry into a competitive market demonstrates its health -- and the absence of entry barriers -- it is not expected to have a significant impact on either prices or costs (because costs and prices already approximate economic costs). In contrast, monopoly markets are typically not efficient. The monopolist is able to set prices above costs and offer consumers inferior quality goods or services. The monopolist is also unlikely to be minimizing costs.[17] Therefore introducing competition to a monopoly market such as local services is likely to result in significant efficiency gains and price declines.

A. Competition in Long Distance Markets

The market for long distance services demonstrates vigorous and effective competition.[18] Realization of this

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[17] While direct regulatory oversight helps mitigate these effects -- especially with respect to restraining the monopolist's ability to earn surplus profits by setting prices significantly above costs -- direct regulation is imperfect and inefficient.

[18] For further discussion of the state of long distance competition, see B. Douglas Bernheim and Robert D. Willig, *The Scope of Competition in Telecommunications*, AEI Studies in Telecommunications Regulation, Washington DC: American Enterprise Institute, 1997, forthcoming; David L. Kaserman and John W. Mayo "Competition and Asymmetric Regulation in Long-Distance Telecommunications: An Assessment of the Evidence," *CommLaw Conspectus*, Vol. 4, Winter 1996, pp. 1-26; Declaration of R. Glenn Hubbard and William H. Lehr, in *United States of America v. Western Electric Company and American Telephone and Telegraph Company*, U.S.D.C., Civil Action No. 82-0192, November 1994; Ingo Vogelsang (continued...)

beneficial state has taken many years. Prior to the divestiture of the Bell System in 1984, most consumers were served by a single, integrated provider of local and long distance services. For over a decade prior to this date, the technology had existed to facilitate competition in long distance services, yet the Bell System's dominance over local services and preferential access to essential interconnection and local access facilities severely hampered the development of long distance competition. Similar problems were faced by potential competitors in the markets for telecommunications network equipment and customer premises equipment.

The principal goal of the MFJ, which effected the divestiture of the Bell System, was the mitigation of the potential for anticompetitive practices by isolating monopoly "bottleneck" facilities from complementary competitive (or potentially competitive) services. Hence the MFJ required the divestiture of the local telephone companies, which held the bottleneck facilities (*e.g.*, such local network elements as switches, loops, and local transport facilities). The local telephone companies reorganized as the BOCs were proscribed, *inter alia*, from providing interLATA

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[18] (...continued)
and Bridger M. Mitchell, *Telecommunications Competition: The Last Ten Miles*, Cambridge: MIT Press (for the American Enterprise Institute, 1997); Long Distance Market Shares Fourth Quarter 1996, FCC Common Carrier Bureau, Industry Analysis Division, released March 1997; *True Competition in the Long-Distance Market*, MCI Communications Corporation, white paper, January 27, 1997.

services.

The BOCs were required to enable the provision of equal access to allow consumers to select freely among alternative long distance providers and to interconnect with those carriers over equivalent-quality connections. Equal access enabled "dial-1" access to carriers other than AT&T. While these new facilities were being deployed, the other common carriers (OCCs) were provided a discount relative to the local access fees paid by AT&T to compensate the OCCs' customers for the inferior quality access services they were provided.[19] The BOCs had a strong incentive to encourage increased competition in long distance services because this would stimulate demand for the BOCs' access services.

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[19] Successful implementation of the "equal access" provisions took several years. The share of access lines which were converted to support equal access varied as follows (see Federal Communications Commission, *Statistics of Communications Common Carriers*, 1995/1996 Edition, Table 8.8):

	% Equal Access
December 1984	3.1
December 1985	39.6
December 1986	63.3
December 1987	75.9
December 1988	83.0
December 1989	86.2
December 1995	98.9

The FCC continued to regulate AT&T as a dominant carrier to assure that it did not use any residual market power to hinder the development of robust competition in long distance services. As we discuss more fully below, this process ended with the reclassification of AT&T as a non-dominant carrier in November 1995. Today, and for the past several years, we have had extensive competition among a diverse array of facilities-based and non-facilities-based national and regional long distance competitors, offering a diverse array of both wholesale and retail services.

There is ample empirical evidence of the extent of competition in long distance services and of the significant benefits realized by consumers as a consequence. *First*, the history and patterns of entry into this industry demonstrate the absence of significant entry barriers and the presence of diverse and widespread choices for consumers. *Second*, patterns and trends in market shares indicate that the competitive process is dynamically vigorous. *Third*, the broad and extensive declines in long distance prices provide a direct indication of consumer benefits. *Fourth*, the nature of competition as indicated by the marketing and advertising programs used by long distance demonstrates the vibrancy and aggressiveness of competition and the frequency with which this competition is price-based. *Fifth*, the structure of the industry with competitive wholesale markets for bulk transport services guarantees that entry remains free and the

long distance market is competitive. *Sixth*, the behavior of customers, as evidenced by the extent of customer churn, demonstrates that consumers understand that they have competitive choices and are asserting their sovereignty to freely choose among multiple carriers. *Seventh*, and finally, the financial performance of long distance carriers indicates that they are earning no more than a competitive return.[20]

1. Entry patterns demonstrate the absence of significant entry barriers.

Evidence of vigorous entry into (and exit from) an industry demonstrates the absence of significant entry barriers, which is a necessary precondition for effective competition.[21] Today, there are over 850 firms competing in markets for long distance services -- a number that increases with each year (see Figure 1).[22] This includes a diverse array of facilities-based and

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[20] See *Declaration of R. Glenn Hubbard and William H. Lehr*, note 18, *supra*.

[21] A 1996 study by Simran Kahai, David Kaserman, and John Mayo of the state of long distance competition rejected the hypothesis that AT&T possesses market power and estimated a supply elasticity for fringe firms of 4.38 -- suggesting a large supply response by smaller fringe firms to a price change. See Simran Kahai, David Kaserman, and John Mayo, "Is the 'Dominant Firm' Dominant?: An Empirical Analysis of AT&T's Market Power," *Journal of Law and Economics*, 39 (October 1996): 499-517.

[22] Another indicator of the ease of entry into long distance services is provided by the number of Carrier Identification Codes (continued...)

non-facilities-based and national and regional carriers. In Oklahoma City alone, consumers can select long-distance service from at least 16 different carriers.

The effectiveness and importance of resale competition (from non-facilities based carriers) is especially illustrative and interesting in light of the challenge of introducing competition in local exchange services.[23] Often the least-cost, most efficient entry strategy is to start as a reseller of wholesale services provided by facilities-based carriers, while investing in facilities as needs and opportunities dictate. This flexible entry strategy permits even relatively small firms to enter a capital-intensive industry incrementally. For example, both MCI and Sprint relied heavily on resale of AT&T services (at nationally averaged rates) while they were constructing their networks, and new competitors such as Excel, Worldcom, and Frontier are using resale to support their growth. Access to resale reduces the costs of facilities-based entry; and increased facilities-based entry reduces the costs of resale. The process thereby feeds on itself,

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[22] (...continued)
which are assigned. See Figure 2.

[23] As we explain further below, resale in long distance markets is more akin to the prospective market for UNEs than it is to Total Service Resale of local services. However, while we have significant market experience with long distance resale, firms have not yet implemented successful resale of UNEs. Removal of the regulatory barriers does not eliminate the economic barriers to entry nor demonstrate the commercial viability of resale of UNEs.

promoting competition at both the wholesale and retail levels.

2. Market share trends demonstrate continued decline in AT&T market share.

Based on traditional measures of concentration (based on revenue shares), the long distance market would appear to be concentrated with over 80 percent of industry revenues attributable to the top three carriers (AT&T, MCI, and Sprint). However, the market has in fact become increasingly *less* concentrated over time: AT&T's market share has fallen from more than 90 percent to 53 percent between 1984 and 1995.[24] Moreover, this trend has been continuous from 1984 to the present and most of the market share currently being lost by AT&T has been captured by smaller firms other than MCI and Sprint.

To put things in perspective, the growth experience of some of the newer competitors such as Excel, Worldcom, or Frontier compares quite favorably with either the MCI or Sprint of a decade ago, indicating that there is no shortage of candidates to offer robust facilities-based competition to today's big three.[25] Such

[24] See Table 5, FCC Common Carrier Bureau, note 18, *supra*.

[25] See FCC Common Carrier Bureau, note 18, *supra*, Table 6.

(continued...)

life-cycle comparisons are instructive because developing into a full-fledged facilities-based carrier takes time.

3. Price trends demonstrate real declines, net of access reductions.

Prices for long distance services have declined significantly since 1984, even after accounting for declines in access charges.[26] Figure 3 shows that AT&T's Average Revenue Per Minute (ARPM) for switched interstate toll fell over 60 percent in real terms since divestiture -- and, net of access, prices declined

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[25] (...continued)

Revenue Share or Toll Revenues

	1984:3Q	1996:3Q
AT&T	88.1%	53.7%
MCI	4.7%	17.8%
SPRINT	3.0%	8.7%
WORLDCOM	n/a	4.7%

[26] See *Declaration of R. Glenn Hubbard and William H. Lehr*, note 18, *supra*; *B. Douglas Bernheim and Robert D. Willig*, note 18, *supra*, Chapter 2, pages 68-71; or *True Competition in the Long-Distance Market*, note 18, *supra*, which reports an FCC study which showed that real toll revenue per minute declined $0.0317 per minute from 1992 to 1995 while real access charges per minute declined only $0.0132 per minute -- demonstrating that prices declined significantly more than the decline in access charges.

by 37 percent.[27] Moreover, these declines were experienced across service categories, and were even larger for some services. For example, Figure 4 shows that between 1990 and 1995, real prices for consumer dial direct, business outbound, and business inbound toll services declined between 24 and 39 percent, offering benefits to all types of consumers.[28] Figure 5 demonstrates that all classes of residential customers -- both high and low usage -- benefited from these price declines.[29] Furthermore, the decline in ARPM net of access understates the true magnitude of the benefits delivered to customers because the price declines do not reflect improvements in service quality.

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[27] This is equivalent to a decline in nominal prices of 45 percent, which is in line with estimates reported by other analysts for long distance toll services overall. For example, Insight Research Corporation reported that prices had declined in the range of 60 percent (see *Telecommunications Without Networks: Resellers, Aggregators, and Rebillers in the U.S. Resale Market*, Insight Research Corporation, December 1994, page 12).

[28] For example, according to the trade press, prices to corporate business customers declined by 80 percent (see Michael T. Felix, "Preparing the Market for Enhanced Services Implementation," *Telephony*, vol. 230, no. 13, page 40), and today, some large customers are obtaining long distance services for as low as $0.07 per minute (see David Rohde, "VPN Rates on the Way Down," *Network World* 13 (December 2, 1996) pages 1, 14-15).

[29] These data refute allegations by BOC experts that price declines have been narrowly targeted towards a small class of high volume residential users. Today, any residential user need pay no more than $0.15 per minute for long distance calls, and may actually pay much less depending on the time of the call and the caller's usage patterns.

Several BOC experts have presented narrow and misleading views of the data attempting to demonstrate a contrary proposition.[30] These analyses proceed by selectively choosing individual tariffs or the starting and stopping dates for the time-series, or by relying on flawed telecommunications price indices. A common shortcoming of these studies is a failure to consider adequately the effects of discount programs and other new services on the menu of prices faced by consumers. Because it is a complex task to compare complex baskets of services (*i.e.*, calls which differ by distance, time of day, and enhanced billing and service features), we advocate focusing on the actual prices consumers pay as measured by the average revenue per minute realized by long distance carriers. When performed on this basis, it is clear that real price declines for long distance services have been substantial; we discuss this in more detail in Section V below.[31]

4. Marketing and advertising programs demonstrate vigorous competition.

The close causal association between effective competition and the price declines noted above is directly

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[30] For example, see Paul W. MacAvoy, *The Failure of Antitrust and Regulation to Establish Competition in Long-Distance Telephone Services*, Cambridge: MIT Press (for the American Enterprise Institute), 1996.

[31] See *True Competition in the Long-Distance Market*, note 18, *supra*, for additional data supporting these same conclusions.

observable from the advertisements and marketing strategies employed by long distance carriers. Each of the major carriers has offered innovative discount pricing proposals, all of which emphasize savings as an important if not the most important inducement to customers.[32] Although many of these programs are targeted to particular classes of consumers, there are programs for every group. The many residential calling programs (*e.g.*, block-of-time plans, discounts for frequently called numbers, and tie-ins to mileage plans) demonstrate that the benefits of these programs are widely available to all customer segments.[33]

Furthermore, the pattern of innovation and pricing indicates that there is not a clear market leader. AT&T has been forced to respond to new programs from MCI and Sprint as often as the other way around, and more important, the smaller reseller firms have often forced the big three to play catch-up. According to some industry analysts, Sprint's move to introduce simplified flat per-minute pricing is motivated both by a desire to respond to consumer demand and to respond more effectively to reseller

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[32] For example, consider AT&T's "1-800-COMPARE" and MCI's "Proof Positive" programs which allow customers to compare prices directly.

[33] According to B. Douglas Bernheim and Robert D. Willig, note 18, *supra*, Chapter 2, page 57: "Industry analysts estimate that, overall, 50 percent of residential users are enrolled in some discount plan, and that these customers account for 75 percent of residential revenues; other estimates place the fraction of long distance customers using discount plans as high as 80 percent."